REMARKS

By the above actions, claims 1-5 have been amended to correct the noted and discovered informalities. No new matter is introduced. In view of these actions and the following remarks, reconsideration of this application is requested.

Before proceeding further, the Examiner's indication of allowable subject matter with respect to claims 3-4 is acknowledged with appreciation. However, the independent claims, as amended, have been maintained, as they are allowable over the applied references for the reasons set forth in detail below.

In response to the objections to claims 1 & 5, claims 1-5 have been amended to correct the noted and discovered informalities. No new matter has been introduced. Accordingly, these objections have been overcome. If, however, the Examiner disagrees, the Examiner is invited to contact the undersigned attorney, who will be happy to work with the Examiner in a joint effort to derive a mutually satisfactory solution.

The rejection of claims 1-5 based on Scheel et al. (USP 6,351,401), and Redl (USP 5,680,034) is inappropriate as it relates to the pending claims, because Scheel et al., and Redl, alone or in combination, fail to teach or suggest all of the features recited in the pending claims. For example, independent claim 1 recites (emphasis added):

> Apparatus for converting power from a power input to an output power supply, the apparatus comprising:
> a resonance converter, the resonance converter comprises at least two serial coupled semiconductor switches,
> the semiconductor switches comprise at least one common output terminal,
> the one common output terminal is connected to at least one first coil,
> the first coil is connected to a first capacitor,
> the first coil is part of a transformer,
> the transformer comprises a second coil connected to rectifier means,
> the rectifier means has its output connected to output terminals,
> a first feedback circuit connects one of the output terminals to an error amplifier,
> the error amplifier is connected to a first input of a control circuit,
> the control circuit comprises an output that is connected over driver means to an input of the semiconductor switches,
> a second feedback circuit transmits a feedback signal from the first capacitor,
> the first capacitor is serially connected to the first coil and to ground,

> the second feedback circuit is connected to a second input terminal of the control circuit,
> the second input terminal is connected to at least one second capacitor,
> the second capacitor controls a switching frequency of the semiconductor switches,
> **the second feedback circuit transmits the feedback signal depending on an actual change of charge of the first capacitor in each half period of switching of the first capacitor**, and
> the feedback signal linearizes the influence of the first feedback circuit.

Independent claim 5 recites (emphasis added):

> Method for power conversion control in serial resonance switch mode power converters operating in frequency mode at normal operation, the method comprising:
> **converting a first feedback signal, from a power output, via an opto-coupler to an input to a switching means,**
> influencing via a second feedback signal charging and discharging of at least one second capacitor controlling an oscillating circuit,
> wherein with increasing load, a mode of operation is changed into a charge mode control by the second feedback signal, and
> **the second feedback signal is based on an actual charging current of and a change in charge in each half period of switching on first serial resonant capacitors.**

Thus, the inventions of independent claims 1 and 5 are directed to the novel features of an apparatus for converting power from a power input to an output power supply, including a second feedback circuit that transmits a feedback signal depending on an actual change of charge of a first capacitor in each half period of switching of the first capacitor, as recited in independent claim 1, and a method for power conversion control in serial resonance switch mode power converters operating in frequency mode at normal operation, including converting a first feedback signal, from a power output, via an opto-coupler to an input to a switching means, wherein a second feedback signal is based on an actual charging current of and a change in charge in each half period of switching on first serial resonant capacitors, as recited in independent claim 5.

By contrast, Scheel et al. is directed to a series resonant converter including a control circuit with pulse-width modulation regulation, which is different from the inventions of independent claims 1 & 5 that are applicable a resonant DC-DC converter. Although Scheel et al. may include a first and a second feedback system, the second feedback system of Scheel et al. is not directly used to influence a capacitor as part of a frequency regulation system.

Specifically, with a pulse-width modulation, there is no influence of an oscillating frequency, wherein the only influence is in the number of pulses and the length of the pulses. Accordingly, Scheel et al. fails to disclose, teach or suggest a second feedback circuit that transmits a feedback signal depending on an actual change of charge of a first capacitor in each half period of switching of the first capacitor, as recited in independent claim 1, and converting a first feedback signal, from a power output, via an opto-coupler to an input to a switching means, wherein a second feedback signal is based on an actual charging current of and a change in charge in each half period of switching on first serial resonant capacitors, as recited in independent claim 5.

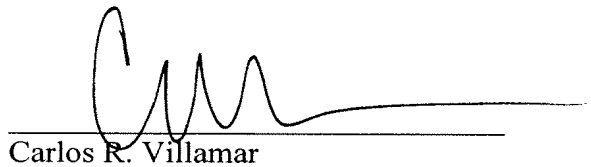
Redl is directed to a pulse-width modulation (PWM) controller for resonant converters, but only has one feedback circuit that depends on charging of a capacitor coupled serially with a coil. The feedback is digital because the signal is transmitted via a operational amplifier 320 that converts the signal into a digital signal that is transmitted to a digital gate 455 that has influence on an oscillating circuit. So in Redl, only a single feedback system is provided, wherein the feedback is digital and the system operates with pulse-width modulation, whereas the inventions of independent claims 1 and 5 include two different feedback systems, where neither of these need be digital. Accordingly, Redl also fails to disclose, teach or suggest a second feedback circuit that transmits a feedback signal depending on an actual change of charge of a first capacitor in each half period of switching of the first capacitor, as recited in independent claim 1, and converting a first feedback signal, from a power output, via an opto-coupler to an input to a switching means, wherein a second feedback signal is based on an actual charging current of and a change in charge in each half period of switching on first serial resonant capacitors, as recited in independent claim 5.

Dependent claim 2 is allowable on its own merits and for at least the reasons set forth above with respect to independent claim 1.

Therefore, in the absence of new and more relevant prior art being discovered, this application should now be in condition for allowance and action to that effect is requested. However, while it is believed that this application should now be in condition for allowance, in the event that any issues should remain, or any new issues arise, after consideration of this response which could be addressed through discussions with the undersigned, then the

Examiner is requested to contact the undersigned by telephone for the purpose of resolving any such issue and thereby facilitating prompt approval of this application.

Respectfully submitted,



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